

CLAIMS

1. An encoding/decoding device for compressing or expanding digital data, comprising:

a DSP processor for compressing or expanding the digital data;

5 a nonvolatile memory in which compressed program data and compressed parameter data are stored;

a volatile memory for temporarily storing the program data and the parameter data; and

a general-purpose processor for controlling a system,

10 wherein the general-purpose processor expands the compressed program data and the compressed parameter data and transmits them to the volatile memory, and

the DSP processor reads the expanded program data and the expanded parameter data into an internal memory of the DSP processor and compresses or expands the digital data on the basis of the program data and the parameter data.

15 2. The encoding/decoding device of Claim 1, wherein the program data and the parameter data stored in the nonvolatile memory are each divided and compressed, and

the general-purpose processor includes:

20 means for separately reading the divided program data and the divided parameter data; and

means for changing parts or all of the program data and the parameter data even when the DSP processor executes an encoding or decoding program data.

25 3. The encoding/decoding device of Claim 1, wherein the DSP processor has no means for expanding the compressed program data and the compressed parameter data.

4. The encoding/decoding device of Claim 1,

wherein the program data stored in the nonvolatile memory includes:

compressed program data to be used in the DSP processor; and

uncompressed program data to be used in the general-purpose processor.

5. The encoding/decoding device of Claim 1,

wherein the program data and the parameter data are divided in a unit that invites no impairment of real time performance based on internal processing of encoding or decoding in the DSP processor.

6. The encoding/decoding device of Claim 1,

wherein the program data and the parameter data are divided in a unit within a capacity of the volatile memory and a capacity of the internal memory of the DSP processor.

7. The encoding/decoding device of Claim 1,

wherein the program data and the parameter data are divided in a unit that enables real-time expansion within a processing capability of the general-purpose processor.

8. The encoding/decoding device of Claim 1,

wherein the general-purpose processor includes means for notifying, after expansion of the compressed program data and the compressed parameter data upon receipt of a request for expansion of the compressed program data and the compressed parameter data from the DSP processor, expansion completion to the DSP processor, and

the DSP processor includes means for reading, upon receipt of expansion completion information from the general-purpose processor, the expanded program data

and the expanded parameter data into the internal memory of the DSP processor.

9. The encoding/decoding device of Claim 1,

wherein the compressed program data and the compressed parameter data are each divided, each divided program data and each divided parameter data holding program data to be executed next and information on necessary parameter data, respectively, and

both program data for the general-purpose processor and program data for the DSP processor have a same compressed data management table for specifying the program data and the parameter data.

10. The encoding/decoding device of Claim 8,

wherein the general-purpose processor includes:

means for expanding program data and parameter data different from those in a request from the DSP processor and transmitting them to the volatile memory while ignoring the request; and

means for controlling an operation of the DSP processor from the general-purpose processor regardless of the operation of the DSP processor.

11. The encoding/decoding device of Claim 10,

wherein the general-purpose processor further includes means for issuing an instruction for compelling the DSP processor to change reading of the program data and the parameter data into the DSP processor, and

the DSP processor includes means for reading the expanded program data and the expanded parameter in the volatile memory into the internal memory while stopping an encoding or decoding operation upon receipt of the instruction.